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Article — Digitized Version

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Intereconomics

Suggested Citation: Karunaratne, Neil Dias; Tisdell, Clem (1996) : Globalisation and its policy repercussions, Intereconomics, ISSN 0020-5346, Nomos Verlagsgesellschaft, Baden-Baden, Vol. 31, Iss. 5, pp. 248-260,
<https://doi.org/10.1007/BF02927157>

This Version is available at:

<https://hdl.handle.net/10419/140562>

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Globalisation and Its Policy Repercussions

The increasing cross-border flows of information, trade, capital and technology have profoundly changed the macroeconomic fabric of nations. In the emergent borderless world macroeconomic theories and policy-making confront new challenges. This paper identifies and evaluates some of these challenges.

Dramatic changes in technology, the deregulation of financial markets, and the liberalisation of trade have accelerated the forces of globalisation or the process of linking the economies of the world together. The cross-border flows of goods and services, financial assets, technology, information, news and cultural interactions have reached unprecedented levels. The processes of economic integration and information interactions between nations have occurred from time immemorial, but only during the past decade have they occurred at a speed and a scale to be identified as a phenomenon. The phenomenon of globalisation has changed profoundly both the stance and effectiveness of traditional macroeconomic policy instruments. Globalisation also has repercussions on trade policy, on electronic commerce, on supranational regulatory issues encompassing technology transfer, environment and bio-diversity protection, media and cross-cultural issues. This paper aims to review some of the major ramifications of the globalisation phenomenon that is gathering momentum as we approach the new century.

The technological advances in telecommunications and information technology have radically altered the production, investment and trading relations of the macroeconomies of the world by globalising them. Furthermore, productivity and added value are increasingly generated by the application of information technologies or through informatisation. The globalisation forces unleashed by the new micro-electronic technologies and informatics have dissolved regulatory barriers that have hitherto stifled the cross-border flows of investment and trade.

Through the establishment of overlapping telecommunications networks or information superhighways, the new technologies have prised closed economies open and integrated them. The new technologies have conquered geographical distances, and reduced political and cultural segmentation, to usher in the globalised economy or the borderless world. This study aims to review the changes in information technology and the other economic forces that have reshaped the global economic landscape.

The new electronic technologies have not only unified the far-flung national economies of the world into a monolithic cyberspace or a global electronic village, but they have also changed irrevocably the locus of economic production from manufacturing industry to the processing and trading of information. In the emergent information economy, information replaces raw materials and energy which were the lifeblood of the industrial economy. The sustained growth and welfare of the information economy depend crucially on the free flow of information through the information superhighways. Interventionist policies are necessary to overcome the market failures that characterise the lumpy investments required to develop the costly telecommunication infrastructures and high-tech sectors of the information economy in which transnational corporations (TNCs) will play a leading role in global trade and investment and act as the vehicles of technology transfer. Overzealous host governments could pursue distortionary policies in the scramble to lure the TNCs and their magic package of capital, skills and technology. Strategic pressures from TNCs could drive governments to adopt beggar-thy-neighbour policies to deter potential rivals. In this context, surveillance and periodic reviews by

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supranational agencies such as the World Trade Organisation and the World Bank could avert costly trade wars.

The rapid restructuring of communication and the key sectors of economic activity by the forces of new technology are resulting in new organisational, institutional and policy responses. The economies of the North, or developed countries, have now become predominantly information economies with the major share of GDP and employment emanating from information-based activities, while the economies of the South, or developing economies, are fast adopting the new technologies and are graduating through the stage-wise process to become information economies. Empirical studies show that some economies of the South are telescoping and even leap-frogging the stages of growth to become information economies and weld into the global information economy or the borderless world.¹ Policy-makers are facing new challenges due to the dramatic changes in the national and global economic structures caused by the new telecommunications and information technologies. The relevance of the dominant macroeconomic theories, which were shaped to meet the policy challenges of closed economies in the moribund industrial era, and of the neoclassical international trade paradigm are being questioned as the globalisation of national economies accelerates. Some economists contend that the globalisation of economic activity and the emergence of the information economies have caused a Khunian paradigm shift rendering old theories defunct for addressing the policy issues of the borderless world. But others argue that the hard evidence and alternative theories required to jettison the old theories have yet to be formulated. Nevertheless, the prevailing uncertainty and the absence of acceptable stylised facts has spawned a lot of unconstrained theorising.² In any case, the changes wrought by the emergent borderless world have enlivened further the on-going macroeconomic debate on theory and policy.

The Information Superhighway and New Lifestyles

The spectacular advances in telecommunications and information technology have conquered distance by reducing transactions costs. They have also created the information superhighways that bypass the traditional regulatory frameworks and established a global cyberspace. The old justification for the provision of universal telephony through state-owned public telephone offices PTOs has crumbled. The

economies of scale and scope associated with the high speed, low-cost and versatile telecommunications technologies and their fusion with computer technologies have made it feasible to offer universally not only plain old telephone services (POTs) but also particularly amazing new services (PANs). The hoary rationale for the natural monopoly of POTs by PTOs based on the cross-subsidisation of thin routes by skimming thick routes hardly cuts any ice any more, since the costs of providing both POTs and PANs through common conduits, resulting from convergent technology, have both become distance-insensitive. The use of fibre optics, lasers, satellites and cellular mobiles, with computer packet switching replacing mechanical switching and the spread of integrated digital services networks (ISDN) have brought about these dramatic cost reductions. The new telecommunications networks are the information superhighways through which value-laden information is transmitted in nano seconds to any part of the globe. Increasingly the information is transmitted in digital rather than analogue form and this information covers voice, data and image. The convergent technologies have enabled the global transmission of multi-media information encompassing not only telecommunications, but television, wireless broadcasting and print media. The adoption of and access to the new information superhighways will determine the competitive edge of business and national economies in the emergent borderless global economy.

The breakthrough in telecommunications and information technology also symbolises the stage-wise graduation of the leading economies of the world from industrial economies to post-industrial information economies. In the information economy the locus of economic activity is not raw material processing and the marketing of manufactured products as in the industrial economy. Rather it is knowledge, cerebral activity, symbol crunching, data processing and its production and exchange that is the locus of economic power and the motor of trade and sustainable growth. In the super information economies of the North, economic activities related to the processing, transmission and storing of information generate the lion's share of national income, employment and trade. The increasing application of information technologies such as robotics to

¹ M. Jussawalla, D. M. Lamberton and N. D. Karunaratne (eds.): *The Cost of Thinking: Information Economies of Ten Pacific Countries*, Ablex Publishing Co., Norwood, N.J., USA 1988.

² R. G. Harris: *Globalisation, Trade and Income*, in: *Canadian Journal of Economics*, 26(6), 1993, pp. 755-776.

undertake repetitive mechanical tasks, and the use of expert computer systems to replace routine mental tasks, will boost productivity.³ This will lead to the intertemporal substitution of leisure for work and increase the leisure orientation of lifestyles in the emergent global information economy.

The lifestyles of citizens in the global information economy are destined to change radically from those experienced during the industrial era. The information superhighways will pave the way for global mass communication through television and interactive computer telecommunication internets. Teleshopping, telemedicine, teleconferencing, tele-education, telecommuting and even teleworking will become cost-effective and widespread. That means that the way people shop, look after their health, educate, talk, work and play in the information age will be significantly different from that in the industrial age. A foretaste of the changes in lifestyles wrought by new technologies is already evident even in our own economics profession. The number of colleagues using electronic mail (e-mail) to correspond instead of the snail-paced postal services is increasing exponentially. Moreover, more and more academics and their students are logging in to the Internet to access a variety of resources covering news, research and databases. These include working papers, bibliographies, macro-economic time-series and household income surveys, job-openings etc. For example, the Journal of Business and Economic Statistics already allows subscribers to access the contents, programmes and databases used in published articles. This shows the shape of things to come as far as research and publications in the coming global information economy are concerned.

The new telecommunication and information technologies will radically alter the way firms organise, produce and trade in the globalised economic set-up. The reduction of transactions costs and the communication speed of the new networked technologies will prompt firms to adopt new managerial systems to coordinate and exploit the advantages of scale and agglomeration economies offered by the new technologies. Within firms new Electronic Data Information (EDI) systems will automate sales, accounting, inventory control, billing and even the production processes. Already, the American Information Exchange (AMIX) advertises the purchase and sale of software, databases and consulting services and shows how electronic commerce will take place in the emergent borderless cyberspace. The old divisionalised hierarchies with

the chain of commands issued through paper memos are already being replaced in the rapidly spreading paperless office by electronic directives through e-mail, voice-mail, parallel processors, imaging, relational databases, neural networks and the like. The electronic coordination technologies will lead to the proliferation of automated management systems, robotics, flexible cells, computer aided design (CAD) and computer aided manufacturing (CAM) in the "factories of the future".

The adoption of the new information technologies and the establishment of the infrastructures for plugging into the new information superhighways will determine both the competitive advantage in trade and the growth performance of firms and the macroeconomy in the information age. However, it is well known that innovation, R&D and investment in new technologies suffer from market failure due to externalities that cause a divergence between private and social profitability. In this context interventionist government policies would have to be designed to overcome the problems of suboptimal investment in these crucial areas, thereby surmounting the profit appropriability problems that deter the large private sector investments required for high-tech industries and telecommunications infrastructure. The high risk and uncertainty inherent in high-tech investments thwart the emergence of intertemporal and contingent markets that facilitate mutually advantageous exchanges between agents. Besides, the lumpiness or indivisibilities of high-tech investments and the long gestation lags required to recoup capital costs and harness economies of scale make interventionist policies unavoidable. The market failures in the high-tech sectors would justify policy measures such as subsidies, tax incentives and active involvement of the public sector in the promotion of private enterprise in the high-tech sectors and communication infrastructure. As explained in more detail below, public policies that are conducive to attract transnational enterprise also can play a vital role in the promotion of strategic high-tech industries. Policy-makers operating in the globalised economy will have to face up to the challenge of devising new policy packages to overcome the market failures and externalities that undermine the investment and nurturing of high-tech industries and information networks that are required to compete successfully for trade and commerce in the global market place.

³ S. Makridakis: The Forthcoming Information Revolution: Its Impacts on Society and Firms, in: *Futures*, 27(8), 1995, pp. 801-821, here p. 806.

Transnational Corporations

The major vehicles of investment and trade in the contemporary world economy are the multinational corporations (MNCs). The motivation of MNCs to locate and do business in host countries has been explained by the advantages to be gained by ownership, location and internationalisation (or OLI).⁴ In the post-industrial global information economy, new information technology has made MNCs go global and become transnational corporations (TNCs), deriving their competitive edge primarily from firm-specific assets rather than from OLI advantages. The conventional factor endowment theories or the neoclassical comparative advantage trade paradigm fail to capture the flavour of TNC business strategy in the new globalised economy. Moreover, the global role of the TNC operations has not only exposed the deficiencies of the conventional trade paradigm but also reversed the policy stance of host countries towards TNCs. The following aims to amplify and shed further light on the operations of the TNCs in the globalised setting and the challenges these developments pose to trade theory and policy.

First, the macro and micro facts relating to the TNC operations on world investment and trade reveal that they are the major engine of world investment, trade and growth. The TNCs control foreign direct investment (FDI) in both the developed and the developing economies. The TNCs are vehicles for the transfer of both capital and technology that trigger or reinforce the virtuous cycle of investment and growth in host countries through the injection of foreign capital and technology. As such, host countries have reoriented policies to entice TNC investments. This marks a complete role reversal from the type-casting of TNCs as agents of growth immiseration in host countries. The TNCs and their affiliates are the major vehicles for the burgeoning intra-industry trade and bi-directional flow of investment between the North and the South. Much of the TNC foreign direct investment is horizontal rather than vertical, that is, TNC output is sold in foreign markets rather than in the host country's domestic markets. The cross-border trade that TNCs generate between affiliates is trade in similar products or is intra-industry trade and not trade in dissimilar goods and services as expected by the conventional factor endowment trade paradigm. Furthermore, TNC foreign direct investment does not appear to be motivated by risk and tax-minimising objectives, but appears, rather, to flow into operations that promote the horizontal integration of business activities in countries with

similar living standards, per capita income and factor endowments.

Second, it is noteworthy that the fusion of telecommunication and information technologies has changed the character of multinational corporations (MNCs) by transforming them into transnational corporations (TNCs) that operate in global cyberspace rather than in the narrow confines of the sheltered national markets. The MNCs during the halcyon days of the industrial age pursued multi-domestic strategies, trying to capture the largest market share in the protected domestic markets through the establishment of tariff-jumping factories. However, with the dawning of the information age, the new telematics has deregulated telecommunications and liberalised trade and deregulated telecommunication monopolies and has changed the organisational and managerial structures of the MNCs. They now source and produce in a competitive global market. They have become TNCs where all managerial, production and sales decisions are done on the basis of the parameters of the global market rather than on the basis of segmented national markets. The TNCs use strategic trade policies to engage in imperfect competition with rivals, by harnessing economies of scale and scope and through product differentiation and the offer of a reliable and quality service to customers. The TNCs' competitive policy strategies are locked into a treadmill of ceaseless innovation to keep ahead of rivals in the global market place. The dominant neoclassical trade paradigm based on the assumptions of perfect competition, constant returns to scale, homogeneous products, identical tastes and technology fails to capture the realities and mechanics of the TNC two-way investment flows and intra-industry trade. But new models exist, in which horizontal integration of TNCs can occur with endogenous equilibria generating bi-directional investment and trade flows. In these models the TNCs are supported in equilibrium when the firm-level fixed costs, tariffs and transport costs exceed the plant-level fixed costs. Such TNC operations dominate North-North trade and investment and trade flows among countries with similar endowments rather than North-South flows among countries with different factor endowments as forecast by neoclassical trade theory.⁵ These new theoretical models are a response

⁴ J. H. Dunning: *International Production and the Multinational Enterprise*, George Allen and Unwin, London 1981.

⁵ J. R. Markusen: *The Boundaries of Multinational Enterprise and Theory of International Trade*, in: *Journal of Economic Perspectives*, 9(2), 1995, pp. 169-189, here p. 176.

to the deficiencies in the Heckscher-Ohlin trade paradigm, which fails to reflect the empirical realities of the trade and investment flows in the emergent globalised economy.

Third, the complete role reversal of the perceptions of TNC operations by host countries needs further comment. During the industrial age, the MNCs were typecast as villains operating inefficient factories behind sheltered protectionist walls. The protectionist tariff and non-tariff barriers induced domestic distortions (consumption and production inefficiencies) eroding host country welfare and immiserising both national and global welfare, as explicated by the pure theory of international trade. The malign image of the MNC was further highlighted by the transfer pricing, tax evasions, lobbying and other machinations against the national economic sovereignty of host countries. The TNCs in the emergent globalised economy are no longer regarded as the harbingers of immiserised growth but rather they are the folk heroes that bring the magic package of capital, technology, managerial and marketing skills that trigger the virtuous cycle of growth and job creation through increased trade. There is intense competition amongst host nations to entice TNC-FDI by creating an attractive environment with tax incentives and infrastructure facilities. The new dynamics of TNC trade and investment are posing new policy challenges to host countries. Excessive competition for TNC-FDI can result in distortionary macro-policy packages that will undermine domestic allocative efficiency and retard global growth dynamics.

Fourth, the organisational structures of TNCs have changed due to the economies of scope and scale available through the convergence of telecommunications and computer technology or the new

telematics. The global diffusion of these technologies creating high speed global communication networks has profoundly altered the organisation, management, production and trading activities of TNCs. The multinational corporations (MNCs) that used affiliates to cater for sheltered domestic markets through multi-domestic strategies have become obsolete due to the establishment of overlapping information superhighways. The new information superhighways are obliterating geographical boundaries and challenging the Machiavellian concept of the nation state by creating a borderless world in which information seeps through regulatory barriers almost costlessly and instantaneously. These technological developments have led the MNCs to go global and compete on a worldwide basis rather than on the basis of parameters of autarchic national economies. As explained earlier the new networked management policies are formulated on the basis of production, input sourcing, location of functional activities such as accounting, R&D and management, on the basis of scale, scope and agglomeration economies operating in the global cyberspace rather than in the narrow confines of national geographic space. The globalisation of the national markets by the electronic linkages forged by the information superhighways have changed the MNCs' policy strategies. The new possibilities of technological coordination demand strategic policies to manage and produce across national boundaries through the transnational corporations (TNCs) where the policy vision is global rather than national. The deregulation of trade and capital flows forced by the impact of new communication and information technologies have been the major force that has profoundly altered the multi-domestic policy strategies of the MNCs and converted them to TNCs formulating networked

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Europarecht II

Das Wirtschaftsrecht im Binnenmarkt

1996, 566 pp., paperback, 49,- DM, 358,- öS, 45,50 sFr, ISBN 3-7890-4293-5



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managerial policies to compete in the globalised techno-economic environment of the borderless world information economy rather than in the moribund nationally segmented world marketplace. The TNCs often prefer to internalise their knowledge capital – encompassing brand names, patents on products and processes, reputation on quality of products – through a process using affiliates rather than through licensing arrangements. This is because new products, processes and technology suffer from characteristics of non-excludability, asymmetric information, adverse selection, moral hazard and non-binding contracts. The traditional trading paradigms gloss over these TNC “knowledge capital” issues. Only now are new trade theories beginning to capture and model the TNC internalisation processes aimed at overcoming the possibility of costly leakage of technology and know-how to potential rivals.

Fifth, the competitive advantage of the TNCs is based on firm-specific assets or knowledge capital. Because of the public goods types of externalities associated with firm-specific assets or knowledge capital, TNCs internalise them by devising strategic organisational policies and measures. The competitive advantage arguably differs from the factor-based comparative advantage of the dominant Heckscher-Ohlin trade paradigm. The failure of the conventional paradigm to capture the strategic policy issues and firm-specific assets that generate competitive advantage has led to calls for its replacement by a new paradigm that captures in more plausible manner the dynamics of the globalised economy.⁶ Thus, policymaking at the macro and micro level in the trading world in which TNCs play a leading role requires the formulation of theories that capture the stylised facts of TNC operations in the emergent globalised economy. The development of new theoretical frameworks will provide both normative and welfare insights on the trade and investment dynamics of TNCs that operate on the global cyberspace. These new trade theories will modify or replace the static factor-based comparative advantage theories by concepts of competitive advantage that recognise the internalisation of knowledge capital and firm-specific assets by TNCs in the global dispersion of their trade and investment activities. Furthermore, the strategic policy stances taken by the TNCs to compete with rivals in the global cyberspace using the new coordination technologies will figure prominently in the new trade and investment paradigms. The strategic first mover advantage gained by investment in information technologies may

be ephemeral due to the dissipation effects of technology through imitation, substitution, holdup, slack, and copying by rivals. Paradoxically, the global reach of the new communications technologies also enables TNCs to capture host country market niches that are unprofitable when considered singly, but when aggregated offer efficient scale economies and handsome profits.⁷ New paradigms that capture the complexities of the TNC global operations await to be fully researched and formulated to exemplify clearly the normative and welfare effects of the operations of the TNCs in the borderless world.

Adverse Effects of TNCs

Transnational corporations are powerful forces for international technology transfer. They are, however, most involved in the transfer of production methods and technology (and in certain cases management and marketing). As a rule, they do not transfer research and development processes to any great extent. Therefore technological advance remains located at the central point of the organisation or in its neighbourhood. Thus there can be transfer of technology without transfer of the processes or methods of generating new technology. Consequently technology in the host country remains derivative.

The derivative nature of technology in the host country can become reinforced by the operation of TNCs. The better brains and inventors may be drawn into the local branches of the TNC rather than seeking independent careers with local firms. They may acquire the culture associated with the TNC in which they are employed and really outstanding talent may be relocated to the TNC's research headquarters. This deprives the local economy of independent means of technological advance.

At the same time, as a result of their presence, branches of TNCs may readily acquire promising local new technology at an early stage for their use within the TNCs. This tends to reinforce the technological dominance of the TNCs. TNCs become like banyan trees under which little local technology can grow and prosper.

Thus while TNCs may spread the availability of new technologies and products rapidly throughout the

⁶ M. E. Porter: *The Competitive Advantage of Nations*, Macmillan, London 1990.

⁷ S. P. Bradley, J. A. Hausman and R. L. Nolan: *Globalization, Technology and Competition. The Fusion of Computers and Telecommunication in the 1990s*, Harvard Business School Press, Boston, Massachusetts 1993.

world, this process reinforces their technological and market dominance. At the same time only derivatives may be transferred. The privilege of the recipients or hosts is to use the technology for productive purposes, not to develop it. The TNCs are for the most part Schumpeterian-type firms, the lifeblood of which is continuing innovation (the basis of their monopoly profit) but it is usually innovation driven and controlled from a central place.

TNCs also have considerable scope for transfer pricing. This can advantage them in a number of ways e.g. they can use it to reduce their tax liability. They are also capable of engineering large movements of capital internationally which can undermine the capacity of governments to regulate the level of macroeconomic activity.

GATT and WTO

The nascent global information economy requires the operation of free trade in both goods and services. Supranational institutional mechanisms have to face the challenges of regulating both goods and services in the new borderless world created by the telecommunication and information superhighways. The free cross-border flow of value-laden information goods and services are the prerequisites for high performance in trade and sustainable economic growth at the macro level. The General Agreement on Tariffs and Trade (GATT) attempted to regulate international trade during the industrial era, albeit in manufacturing, according to the tenets of the neoclassical free trade paradigm. But in reality the GATT was a General Agreement to Talk and Talk, practising free trade only in the breach and often caving in to the hegemonic interests of the North.⁸ The exclusion, at the behest of the protectionist lobbies of the superpowers, of agriculture from the GATT purview and the caving in on the farm subsidies and price support schemes of the North, the erection of barriers against manufactured exports from the South by voluntary export restraints (VERs) on textiles, the anti-dumping practices, and the establishment of discriminatory trading blocs exposed the GATT as an organisation that was for free trade only in rhetoric but mercantilist in practice. GATT had compromised on the tenets of free trade in deference to pressures from powerful agricultural and manufacturing lobbies of the North. The Uruguay Round, which was concluded after seven years of foot-dragging, established a new institutional framework to regulate trade in the emergent global information economy. The charter of the World Trade Organisation (WTO), established in

1994, rectified some of the congenital defects of GATT and brought under its aegis the free trade in agriculture and services which had been excluded from the GATT purview. It also covered the regulation of new areas relating to investment and technology, for example intellectual property rights. During the Uruguay Round trade negotiations the North was pressured to phase out its agricultural protection, VERs on textiles and anti-dumping practices in return for free trade in information goods and services as embodied in the general agreement on trade in services (GATS), the agreement on investment matters (TRIMs) and Trade in Intellectual Property Rights (TRIPs). The WTO has been empowered with a trade policy review mechanism (TPRM) that enables it to scrutinise the performance of members' free trade record. Specifically this relates to the implementation of free trade through adherence to most-favoured nation (MFN) treatment, reciprocity and transparency in the operation of trade policies. The establishment of the WTO, committed to expand free trade through multilateral negotiations, has been hailed as a milestone by some observers on the grounds that it will maximise global welfare by reducing protection, through enhanced allocative efficiency and speedy dispute settlement procedures.⁹

Although the WTO is committed to promoting global free trade it has also inherited the GATT Article 24 which allows the formation of discriminatory regional trading blocs or preferential trading areas where tariffs and quotas can be imposed against non-members of the blocs. Currently there are two giant regional trading blocs based on discriminatory trading principles: the North American Free Trade Area (NAFTA) and the European Union. Almost by default, if not by design, a third regional bloc known as the Asia Pacific Economic Cooperation (APEC) has emerged, espousing principles of open regionalism.

Open regionalism is consistent with the WTO tenets of promoting free trade through multilateral negotiations and the extension of the MFN principles. But discriminatory regionalism, as shown by Vinerian customs union theory, can be harmful, as it can reduce the welfare of the bloc members and the rest of the world if static trade diversion costs exceed

⁸ N. D. Karunaratne: The Reality and the Rhetoric of Free Trade in Services – The Case of Telecommunications, in: *INTER-ECONOMICS*, Vol. 28, No. 2, pp. 95-102.

⁹ R. E. Baldwin: An Economic Evaluation of the Uruguay Round Agreements, in: Sven Arndt and Chris Milner (eds.): *The World Economy. Global Trade Policy 1995*, Blackwell Publishers, Oxford, UK 1995, pp. 153-171.

trade creation benefits. APEC claims to follow the principles of open regionalism, where there is no discrimination against non-members of the APEC bloc. Proponents of open regionalism contend that unilateral tariff reductions are akin to a "prisoner's delight" as they benefit both the trade-liberalising member in the bloc and non-members in the rest of the world. Under open regionalism interventionist policies are supported on the grounds that regional trade has public goods characteristics with externalities. In particular, it is emphasised that government policies should be designed to internalise the externalities arising from the inappropriability of benefits of specialisation by the private sector, due to trade promotion, technology transfer and other measures of APEC economic integration. The resurgence of regional trading arrangements coincides with the precipitous cost reductions in telecommunications and information technology. This is due to the sizeable reductions in the transactions costs associated with trade and this has expanded the scope for APEC regional integration. It has been argued that the structural adjustments paving the way for the emergence of the globalised economy through regional free trade will now be easier to achieve due to the regional spread of telecommunications technology and investment.¹⁰ However, although the move towards global free trade appears to be proceeding through the establishment of regional trading blocs this may be second best as the first best approach still remains free trade through multilateral measures under the aegis of the WTO.

The North and the South have dissenting perspectives on the costs and benefits of the globalisation of technology and trade that is ushering in the borderless world. The World Bank and the International Telecommunications Union have co-sponsored the deregulation of the PTOs, while the liberalising of trade in services has been promoted by the WTO under the GATS. Critics remonstrate that the PTO deregulation in the South will only subserve the hegemonic interests of the North and further marginalise the South and exacerbate the North-South techno-economic gaps.¹¹ Northern protagonists contend that trade liberalisation would deindustrialise the South. Furthermore, it would reduce real wages and increase unemployment in the South. The reduction in trade protection will reduce the incomes of unskilled workers as predicted by the Stolper-Samuelson theorem, as the tariff cuts reduce the price of labour-intensive goods. Besides, the factor price equalisation theorem predicts that free

trade between the North and the South will reduce wages in the North while increasing them in the South. Whether trade liberalisation has immiserised Northern unskilled workers as predicted by the neoclassical trade theorems remains a contentious issue. In the absence of perfect competition and the failure of the prices of labour-intensive goods to fall, the Stolper-Samuelson theorem predictions are untenable.¹² An alternative explanation for the rising unemployment and deindustrialisation in the North has been tendered in terms of the globalisation of information technology which has led to the down-sizing or the replacement of middle management by computerisation and of unskilled workers by robots. This phenomenon of technological unemployment in the North has been dubbed as "Marx striking again" and has been regarded as more powerful than the deleterious unemployment effects attributed to trade liberalisation by the Stolper-Samuelson iron fist.¹³

The rise in intra-industry trade and the lowering of transaction costs in trade due to the revolutionary changes in telecommunications could lead to an all-round improvement of productivity and incomes in all sectors of the Northern economies. But sceptics contend that the convergence of North-South incomes due to the globalisation process has been harmful to the North.¹⁴ The perception that trade liberalisation is a zero-sum game could spark off further rounds of neo-mercantilism and lead to further perversion of supranational agencies to serve the hegemonic interest. This would undermine the efficient allocation of resources and retard growth and diminish welfare in the globalised economy.

Media, Culture and the Environment

The media is becoming globalised in a number of different ways. It is coming to be increasingly dominated by a few transnational corporations.

¹⁰ M. Jussawalla: *Global Telecommunications Policies. The Challenge of Change*, Greenwood Press, Westport, Connecticut, London 1993, here p. 205.

¹¹ P. Drahos and R. A. Joseph: *Telecommunications and Investment in the Great Supranational Regulatory Game*, in: *Telecommunications Policy*, 19(1), 1995, pp. 619-635.

¹² R. Z. Lawrence and M. Slaughter: *Trade and U.S. Wages in the 1980s: Great Sucking Sound or Small Hiccup?*, in: *Brookings Papers on Economic Activity: Microeconomics* 2, 1993, pp. 160-210.

¹³ J. Bhagwati and V. Dehejia: *Free Trade and Wages of the Unskilled - Is Marx Striking Again?*, in: Bhagwati and Kisters (eds.): *Trade and Wages*, American Enterprise Institute Press., Washington D.C. 1994.

¹⁴ P. Krugman and A. J. Venables: *Globalisation and the Inequality of Nations*, in: *The Quarterly Journal of Economics*, CX(4), 1995, pp. 858-880, here p. 857.

Consider here News Limited and the Foxtel empire of Mr. Rupert Murdoch which is becoming increasingly dominant in areas such as television programmes, newspapers and so on.

This dominance endangers the variety of opinions in the media and makes for increasing uniformity of culture and the growing influence of Western culture, particularly American culture. If media "barons" are located in the USA, economics may dictate media uniformity on the basis of American culture. Economies of scale make it convenient to standardise on one culture. Thus TV shows on Australian television stations (channels) owned by News Limited are likely to recycle many American shows. The increasing uniformity of global culture can be expected as a result.

Speedy and cheaper telecommunications of all types is a factor making for increased cultural uniformity. Just as the industrial revolution resulted in more standardised manufactured products and as modern marketing methods have reinforced this trend, so for reasons of economies of scale and mass marketing, modern information technologies are fostering cultural uniformity and the standardisation of many media products.

There is room for debating the desirability of this trend. Scitovsky¹⁵ suggested that uniformity of products in modern economies has resulted in a joyless society. One suspects that uniformity in mass media programmes and publications could result in a further deadening of society, as well as monotonous uniformity between presently different societies.

Economists have extolled the virtues of free international trade and factor movements, particularly international capital movements and the transfer of technology, as means of reducing human want and promoting economic welfare. However, from an environmental point of view the skein is very tangled.¹⁶ Such factors are capable of hastening global environmental deterioration. By promoting economic growth and the intensity of human desires for material goods, economic internationalisation may hasten resource depletion and thereby result in unsustainable economic development. Furthermore, it enables capital and technology to be transferred, which can hasten resource depletion in less developed countries. In the latter respect, transnational corporations are often the prime vehicles of the transfer process.

The globalisation of an economy via market processes results in depersonalised social systems

and alienation, which can often be the source of much psychological stress for individuals. From an environmental point of view, it has been said to transform local people from ecosystem people to "biosphere" people.¹⁷ The former are completely dependent on their local environment and therefore have a strong incentive to maintain it. On the other hand, the latter are no longer so dependent on the local environment. Their incentive to maintain the local environment is reduced, particularly if globalisation is associated with scope for greater outmigration.

In the market system, consumers have very little incentive to take the environment into account in their purchases of commodities. They often have no knowledge of the environmental consequences of the production of their purchases. This will be less so when exchange and production occurs within a local community.

Where a producer comes from, and is located in, a local community, his or her abuse of the local environment is likely to result in social criticism. This can be a powerful force for moderating behaviour. But when the owners of a resource are distant from a local community, as the owners of a transnational corporation operating in a local community would be, this social pressure cannot be asserted effectively. Furthermore, the owners may have little knowledge of the effects of their company at a distant location.

Even if they did have such knowledge, they might not respond to it because of competitive business pressures or because of divided responsibility. In many large modern corporations, decisions are made collectively. Therefore, no individual feels particular moral responsibility for them. Thus there can be a serious lack of social conscience.¹⁸ Globalisation of corporations has resulted in the worldwide diffusion of this lack of social conscience, which of course can also be displayed by state authorities. A small counterbalancing force, however, can be the global media, which can bring the worst environmental cases to the attention of worldwide audiences.

¹⁵ T. Scitovsky: *The Joyless Economy*, Oxford University Press, Oxford 1976.

¹⁶ C. A. Tisdell: *Conservation, Protected Areas and the Global Economic System: How Debt, Trade, Exchange Rates, Inflation and Macroeconomic Policy Affect Biological Diversity*, in: *Biodiversity and Conservation*, 3, 1994, pp. 419-436.

¹⁷ G. A. Klee: *World Systems for Traditional Resource Management*, Edward Arnold, London 1980.

¹⁸ Cf. C. A. Tisdell: *Natural Resources, Growth, and Development: Economics, Ecology and Resource Security*, Praeger, New York 1990, chapter 2.

Nevertheless, these cases are probably the "tip of the iceberg".

It should also be noted that transnational corporations can be adept at moving polluting technologies and activities internationally. They can be moved from countries with stricter environmental controls to those with weak environmental controls. The extent to which such repositioning is desirable can be debated. Certainly there will be circumstances in which the global social costs of such translocation rise, e.g. externality costs may be higher in an LDC to which the polluting technology is moved and/or global pollution may increase.

On the other hand, some modern technologies are environmentally more friendly than those of older vintage. Insofar as transnational corporations rapidly transfer such modern technologies internationally and these replace technologies of older vintage, the environmental situation improves. The position is far from black and white. Nevertheless, the environmental impacts of globalisation are not wholly good. This is being increasingly realised and there are strong political movements in favour of empowering local communities and fostering decentralisation of economic and political decisions.

Hypermobility of Capital

The revolutionary telecommunications and information technologies have played a pivotal role in the financial innovation and deregulation that has resulted in the hypermobility of capital and integration of world financial markets. The Mundell-Fleming model stylises the policy efficacy under fixed and flexible exchange-rate regimes in a world of perfect capital mobility. The model posits that under perfect capital mobility and a fixed exchange-rate regime monetary policy would be impotent, while under a floating exchange-rate regime monetary policy would be quite effective. With the generalised float following the collapse of the Bretton Woods fixed exchange-rate system it was anticipated that countries would regain control over monetary policy. Besides, this would enable the achievement of an optimal Phillips curve tradeoff and insulate the macroeconomy against external shocks. However, the hypermobile massive capital flows appear to pose new challenges to macroeconomic stabilisation policies.

The massive cross-border capital flows engineered by the portfolio diversification mechanics of the bond markets appear to overwhelm the macroeconomic policy objectives of domestic monetary authorities. Firstly, the sheer muscle of the bond markets makes

central banks play only the second fiddle in the formulation of monetary policy. Secondly, the traditional transmission mechanisms underpinning the stable money demand function have collapsed with the financial innovations that preceded the deregulation of financial markets by removing capital controls, interest-rate ceilings, and exchange-rate targets. This has made conventional monetary targeting unworkable. Thirdly, electronic or cyber-cash and new financial instruments or derivatives (futures, options, swaps) have undermined the ability of the central bank to direct monetary targeting through the control of money supply aggregates. Fourthly, the monetary authorities have been overpowered by the anti-inflation dictates of the bond market. Some countries have even committed themselves to "fight-inflation-first" policies at the expense of sacrificing traditional social welfare and safety net desiderata. Finally, it has been alleged that the hypermobility of capital and financial integration have increased the susceptibility of exchange rates to "news" and thus increased exchange-rate volatility.

Firstly, the efficacy of monetary policy even before financial deregulation and capital market integration was under a cloud because of the long and variable lags that made such policies destabilising. This led to the call by the Friedmanites for monetary policy rules to replace discretionary policies. Today the same concerns have resurfaced in the garb of central bank independence to pursue anti-inflationary policies. Secondly, the instability and turbulence that led to the collapse of the traditional transmission mechanisms may have been only transient. The stability of the transmission mechanisms may have been restored after adjustment to deregulation. Thirdly, the fact that the central bank monopolises the creation of the money supply, controls the monetary base and is the lender of last resort puts it on the driver's seat with respect to the control of monetary policy. Fourthly, the deference of monetary authorities to the anti-inflation sentiments of the bond market may be a good thing as it imposes a modicum of financial discipline on the monetary authorities. In this context the pursuit of sound macroeconomic policies that are consistent with macroeconomic fundamentals will be rewarded by capital inflows and the upgrading of the country's credit rating. Finally, the increased volatility of the exchange rate due to financial deregulation and the emergence of the borderless world is only a transitory phenomenon as stylised by the Dornbusch exchange rate overshooting model. In the long run the exchange rate will fall to its equilibrium level as dictated by the purchasing power parity theory. Empirical evidence

has failed to support conclusively that increased exchange-rate volatility post-deregulation has impaired trade and investment in any macroeconomy in a significant manner.

Some economists have suggested the "throwing of sand in the wheels of international finance" or the slowing down of the hypermobility of capital by imposing taxes and controls on capital transactions. But attempts to regain macroeconomic policy control through transactions taxes will wipe out the benefits of lower transaction costs that the new telematic technology has bestowed on the borderless world, and as such it is a Luddite proposal. Notwithstanding, there are serious reservations about the mobility of international capital. Cross-section studies indicate that national saving and investment are highly correlated. This shows that domestic saving funds domestic investment and growth.¹⁹ Internationally mobile capital accounts only for about 10% of the total assets of the large institutional investors of the North. This implies that countries can accelerate growth only by mobilising domestic saving because foreign capital suffers from a home country bias. These assertions contradict the claims of interest-rate parity theories which postulate that in the globalised world economy, established post financial deregulation, capital flows to the locations that offer the highest risk-adjusted returns. These covered interest arbitrage theories are consistent with the claims that the borderless world has unshackled domestic economies from the domestic savings constraint if it has viable investment opportunities. This means that foreign saving and capital could fill the resources gap much more easily in the globalised environment. Mega institutional investors are overcoming the home country bias and diversifying their portfolios globally. The increased international mobility of capital has therefore also increased the exposure of the macroeconomy to the financial discipline of the international bond market. The bond market punishes policy laxity and profligacy by inducing capital flight and rewards sound policies with massive capital inflows. The exposure of macroeconomic policy-making to bond market discipline remains the subject of heated controversy, to say the least, but a recent view in favour of bond market discipline asserts that it is a matter for "cheer rather than fear".²⁰

Rising Tempo of Debate

First, there is a widely held perception that the bond market rather than the government controls the policy levers and calls the policy shots in the globalised

economy of hypermobile capital and cyber-cash. This perception further stokes up the age-old debate by rival schools on the efficacy of policy instruments. Second, the exposure of macroeconomic policy-making to the discipline of the financial markets puts a premium on the pursuit of sound macroeconomic policies whilst censuring easy money or lax fiscal policies that trigger jittery inflationary expectations or waste the tax dollars through massive government borrowing. Third, by making macroeconomic policy more credible and transparent, over-reaction by the bond market to lax macroeconomic policies that destabilise market expectations could be minimised. Fourthly, even if in the globalised hypermobile capital environment the government has lost its control over some of the traditional policy instruments, it still has a full plate of other macro and micro economic policy concerns to grapple with. Finally, a number of measures could be implemented to make government policy more credible and transparent. By providing more information and reducing uncertainty governments can minimise the unpredictable and erratic responses of the bond market to policy changes.

Rival macroeconomic theories have debated the effectiveness of macroeconomic policy instruments in stabilising and fine-tuning macroeconomic fluctuations since the inception of the discipline. The current concerns about the overwhelming power of the bond markets over policy is a continuation of the rich tradition of debate that is a hallmark of macroeconomic theory. The Keynesian revolution overturned the faith in Adam Smith's invisible hand or the price mechanism as the automatic rectifier of market disequilibria. The Great Depression demonstrated that market failure on a grand scale was rampant and laid the foundation for the case for activist government policies to overcome the paralysis of the invisible hand. Thereafter, the Keynesians and Friedmanites locked horns over the effectiveness of monetary and fiscal policies in managing aggregate demand to fine-tune the macroeconomy. The neo-Keynesians in the neo-classical synthesis reconciled Keynesian and classical dogmas, for example, through the Hicksian IS-LM model using the short-run Phillips curve tradeoff. This consensus was dismissed as a bastardisation of the Keynesian general theory by the post-Keynesians,

¹⁹ M. Feldstein and C. Horioka: Domestic Saving and International Capital Flows, in: *The Economic Journal*, 90, 1980, pp. 214-329.

²⁰ P. Woodall: Who's in the Driving Seat?, in: *The Economist*, 7th October, 1995, pp. 3-38.

and it was a short-lived peace! The supply shocks of the 1970s leading to stagflation or the simultaneous rise of both inflation and unemployment led to the collapse of the short-run Phillips curve and caused the demise of the consensus. Friedman-Phelps in their expectations-augmented Phillips curve emphasised the role that policy had in triggering off accelerated inflation. This led to the emergence of the New Classical rational expectations equilibrium school that argued that only unanticipated monetary or fiscal policy mattered or had any real output or employment effects. The new Keynesians challenged the policy ineffectiveness proposition by demonstrating that under rational expectations, if there was wage and price stickiness due to wage contracts, then anticipated policy also mattered. An offshoot of the rational expectations school emerged as the Real Business Cycle (RBC) theory. RBC theorists contend that it is real shocks from technology and productivity changes that trigger macroeconomic fluctuations. The effects of these real shocks would be propagated economy-wide through the intertemporal leisure substitution mechanism. This mechanism postulated that temporary increases in wages would lead to a large substitution of leisure for work while permanent changes would cause no appreciable substitution effects. Despite the emergence of new themes and in spite of the devastating Lucas critique of econometric modelling on the grounds that the models were misleading in their policy simulations as they failed to capture adequately the role of expectations, macroeconomic policymaking seems to continue regardless, in an atmosphere of "business as usual". The current policy scenario has been compared to that which prevailed after Galileo's heliocentric discovery where Ptolemaic flat earth theories were widely used by navigators despite the availability of more refined theoretical insights.²¹ The revolutionary changes in information technology have added further fuel to the fire of the macroeconomic policy debate and challenged researchers and practitioners to adopt theories that reflect more closely the realities of the globalised economy.

The challenge confronting macro policymaking in the borderless world has to be met not by attempting to curb the hypermobility of capital by imposing taxes and reintroducing controls but rather by ensuring that policy measures are more transparent and credible. Such policy transparency and credibility would

minimise the over-reactions by the financial markets arising from uncertainty and incomplete information that result in the destabilisation of market expectations. Many countries have either mandated or adopted low inflation policy targets or have legislated to establish central bank independence. Besides, responsible fiscal management has been promoted by the adoption of good accounting practices, well-defined targets and transparent policies. It has been argued that just as the WTO periodically through the TPRM review of trade policies of member nations, the IMF should review the macroeconomic policy performance of its members periodically to ensure that they are on the right track. Although bond market discipline has blunted some of the control that governments exert over traditional policy instruments in the globalised economy, it has not lessened the policy formulating tasks that governments have to cope with, in particular the need to sharpen the national competitive edge by promoting microeconomic reforms and by establishing an economic climate conducive to attract foreign investments through TNCs as foreshadowed in new growth theories. Microeconomic reforms to remove the structural rigidities such as tax distortions and labour market inefficiencies that lead to sub-optimal saving and the blunting of a country's competitive edge in the international arena should be underlined for priority action. Moreover, government policy has to address the important task of building up human skills through education and training of the labour force to meet the challenges of the globalised economy.

Summary and Conclusions

The breakthroughs in information and communication technologies have created a globalised world by linking nations through overlapping information superhighways. In this globalised or borderless world business and society have unlimited access to value-laden information. Information provides the lifeblood of the information economy just as raw materials (minerals and fossil fuels) constitute the lifeblood of the manufacturing economy. The lifestyles of ordinary citizens and the manner in which transnational corporations conduct their global business operations would differ significantly in both strategy and practice from those pursued during the industrial age. The advent of the information superhighways has led to the adoption of new coordination technologies to manage the investments and trade flows in goods and services that have been dominated by TNCs. The TNCs organise their business and engage in strategic

²¹ N. G. Mankiw: A Quick Refresher Course in Macroeconomics, in: Brookings Papers on Economic Activity, 1, 1990, pp. 1-69.

policies to protect their competitive advantage derived from firm-specific assets, with public goods characteristics, from falling into the hands of predatory rivals. The emergence of the global information economy has brought about new pressures to bear upon the North-South divide or the relationships between the developed and developing countries. The anxiety of the hegemonic interests in the North has been the driving force in establishing supranational agencies to regulate free global trade not only in goods but also in the markets for information services. In the negotiations for establishing supranational institutional mechanisms the North has traded off some of its protectionist preserves in agriculture and manufacturing to tease off agreements for free trade in services, safeguards for investments and intellectual property.

The rapid diffusion and adoption of new telecommunications and information technologies has promoted the deregulation of telecommunications, the liberalisation of trade and the integration of global capital markets. The technological changes have reconfigured the global economic landscape and posed challenges to conventional trading paradigms and the efficacy of traditional macroeconomic policy instruments. The validity of the neoclassical paradigm has been challenged by the strategic trade policies pursued by TNCs to compete in imperfectly competitive global markets. Furthermore, supranational institutions have established new ground rules for regulating trade in services, investment and intellectual property rights based on the principles of fair and free trade as postulated in the conventional trade paradigm. Thus, depending on whether markets are imperfectly competitive or perfectly competitive, trade policies will have to be either activist or passive. In the case of strategic trade policies pursued by transnationals or regional trading blocs there is the danger of beggar-thy-neighbour actions' erupting into mutually destructive trade wars. The supranational agencies such as the WTO could play a monitoring and signalling role by using the TPRM or similar mechanisms to ward off any dangers of potential conflicts or trade wars that could reduce national and global welfare.

The efficacy of fine-tuning macroeconomic policies has been under debate from the very inception of the

economics discipline. The emergence of the borderless world has enlivened the debate on the efficacy of macroeconomic policy instruments to achieve stabilisation goals and the relevance of macroeconomic theories to provide policy guidelines. Some economists have advocated the reintroduction of the regulation of financial markets to regain control via conventional macroeconomic policy instruments. The implementation of such proposals would negate the benign effects of capital mobility and low transactions costs bequeathed by the telecommunications revolution. The exposure of macroeconomic policy to bond market discipline has put a premium on the pursuit of anti-inflationary policies. Critics contend that the excessive concern for the bond market's anti-inflation penchant has led to the sacrifice of social welfare and full employment goals, which have been traditional concerns of macroeconomic policy. Macroeconomic theories are made up of rival views on the efficacy of policy instruments in achieving macroeconomic goals. The emergent globalised or borderless world will turn the heat up on the on-going controversies. However, old theories like old soldiers refuse to die. They continue to influence policy-making. The behaviour of policy-makers in this context has been epitomised by the quote from Keynes' *General Theory*: "Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back".²² Outmoded theories will continue to be used in policy analysis despite their growing inapplicability in a world of fast communication and hypermobile capital. This is because economists have been recalcitrant in sizing up the economic impacts of technological change. For example, the famous French economist, J. B. Say dismissed the motor car as a poor substitute for the horse as a mode of transport! On the other hand the media is full of hype about the cornucopia that the information revolution and the borderless world is about deliver in the near future. During the new century, the reality may pan out to be somewhere mid-way between the predicted pessimistic and optimistic scenarios. The sceptics dismiss the phenomenon of globalisation as "globaloney" or "pie in the sky" in a world that is segmented by cultural, political and institutional barriers.²³ Such warnings infuse some sobriety on a policy issue clouded by hype. Nonetheless, the bottom line is that we are living on the threshold of the transition from the moribund industrial economy to the global information economy, where new theories and policies will have to be formulated to meet the policy challenges it presents.

²² John Maynard Keynes: *The General Theory of Employment, Interest and Money*, Macmillan, London 1936, p. 383.

²³ D. Lamberton: *Globaloney: The Impact of Regions on the Future Emerging Markets in Information Technology and Trade*, in: *Pacific Telecommunications Review*, 14(4), 1993, pp. 3-10.